



Food Safety and Inspection Service

Technical Information From FSIS

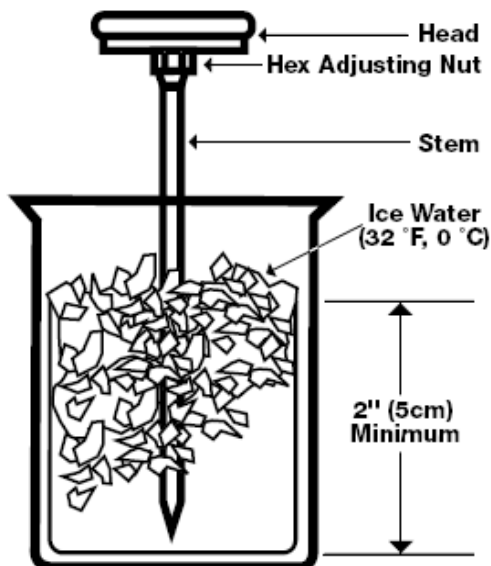
Slightly Revised May 2002 Food Safety Education Staff
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Calibrating a Thermometer

There are two ways to check the accuracy of a food thermometer. One method uses ice water, the other uses boiling water. Many food thermometers have a calibration nut under the dial that can be adjusted. Check the package for instructions.

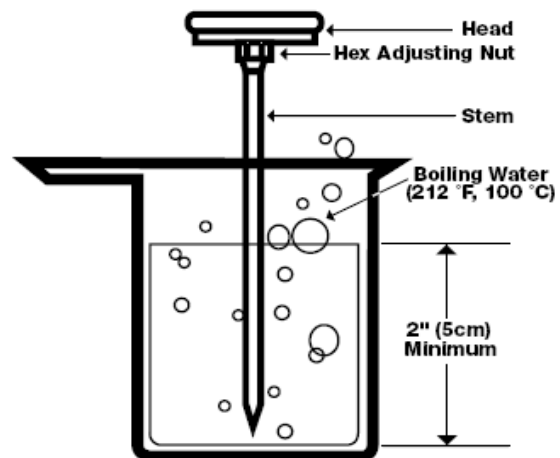
Ice Water

To use the ice water method, fill a large glass with finely crushed ice. Add clean tap water to the top of the ice and stir well. Immerse the food thermometer stem a minimum of 2 inches into the mixture, touching neither the sides nor the bottom of the glass. Wait a minimum of 30 seconds before adjusting. (For ease in handling, the stem of the food thermometer can be placed through the clip section of the stem sheath and, holding the sheath horizontally, lowered into the water.) Without removing the stem from the ice, hold the adjusting nut under the head of the thermometer with a suitable tool and turn the head so the pointer reads 32 °F.



Boiling Water

To use the boiling water method, bring a pot of clean tap water to a full rolling boil. Immerse the stem of a food thermometer in boiling water a minimum of 2 inches and wait at least 30 seconds. (For ease in handling, the stem of the food thermometer can be placed through the clip section of the stem sheath and, holding the sheath horizontally, lowered into the boiling water.) Without removing the stem from the pan, hold the adjusting nut under the head of the food thermometer with a suitable tool and turn the head so the thermometer reads 212 °F. For true accuracy, distilled water must be used and the atmospheric pressure must be one atmosphere (29.921 inches of mercury). A consumer using tap water in unknown atmospheric conditions would probably not measure water boiling at 212 °F. Most likely it would boil at least 2 °F, and perhaps as much as 5 °F, lower. Remember that water boils at a lower temperature in a high altitude area. Check with the local Cooperative Extension Service or Health Department for the exact temperature of boiling water.



For Additional Information

Even if the food thermometer cannot be calibrated, it should still be checked for accuracy using either method. Any inaccuracies can be taken into consideration when using the food thermometer, or the food thermometer can be replaced. For example, water boils at 212 °F. If the food thermometer reads 214 °F in boiling water, it is reading 2 degrees too high. Therefore 2 degrees must be subtracted from the temperature displayed when taking a reading in food to find out the true temperature. In another example, for safety, ground beef patties must reach 160 °F. If the thermometer is reading 2 degrees too high, 2 degrees would be added to the desired temperature, meaning hamburger patties must be cooked to 162 °F.

For additional food safety information about meat, poultry, or egg products, call the toll-free

USDA Meat and Poultry Hotline

1 (888) MPH hotline

(1-888-674-6854)

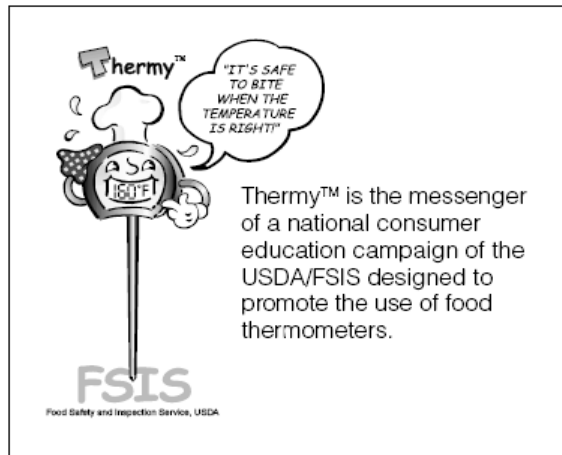
TTY: 1 (800) 256-7072

It is staffed by home economists, dietitians and food technologists weekdays year round from 10 a.m. to 4 p.m. Eastern time. An extensive selection of food safety recordings can be heard 24 hours a day using a touch-tone phone.

The Meat and Poultry Hotline can be contacted by e-mail at mph hotline.fsis@usda.gov.

Information is also available from the FSIS

Web site: www.fsis.usda.gov



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